

SURFACE MOUNT PACKAGE FOR LINEAR ARRAY SENSORS

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ABSTRACT OF THE DISCLOSURE

5 In linear arrays of charge coupled device photosensors, sensor integrated circuits are contained in surface mountable packaging allowing individual segments to be soldered into place within the array. For solder-mountable packaging, unencapsulated sensor circuits are mounted onto a lead frame strip with the space between the circuits equaling the width of a singulation saw. After die mounting and wire bonding, a continuous strip of plastic or resin molding covers the wire bonds on one side and the edge of the silicon on the other, protecting the lead frame strip and other parts, leaving the active sensor area exposed. The lead frame is then trimmed and formed in a conventional manner, and the packaged sensor circuits are separated with a singulation saw cutting between the circuits. The resulting self-contained device may then be surface mounted within a linear array with solder rather than depending on Chip On Board technology. Leads are preferably soldered to the board on only one side, with the other side floating freely over the appropriate contacts for ease of mechanical adjustment. Individual sensor segments within the array may be readily removed and replaced in the event of a
10 defect.

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